GLASS/WINDOWS/MIRRORS

GW

- 1. General Description
- 2. Relay and Fuse
- 3. Power Window System
- 4. Power Window Control Switch
- 5. Front Door Glass
- 6. Front Regulator and Motor Assembly
- 7. Remote Control Mirror System
- 8. Outer Mirror Assembly
- 9. Remote Control Mirror Switch
- 10. Rearview Mirror
- 11. Windshield Glass
- 12. Rear Window Glass
- 13. Rear Window Defogger System
- 14. Rear Quarter Glass

GLASS/WINDOWS/MIRRORS > General Description

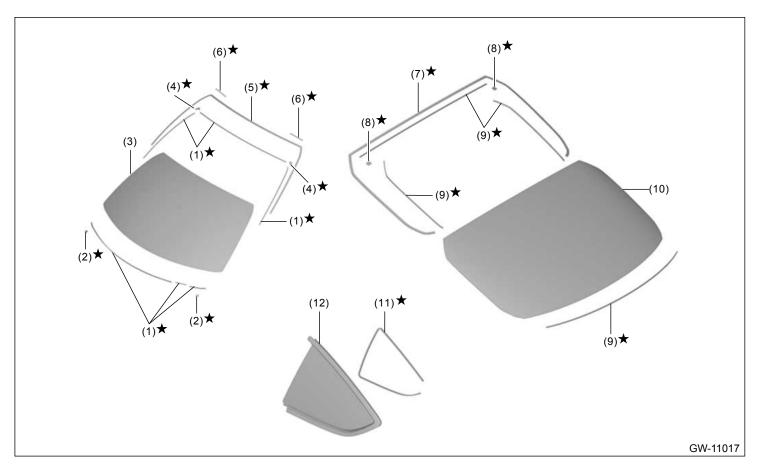
CAUTION

- When performing service operation, refer to "Repair Contents" in "General Description". Ref. to REPAIR CONTENTS>Repair Contents.
- Refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM" section. Ref. to AIRBAG SYSTEM Section. Ref. to AIRBAG SYSTEM Section.
- When performing work on the sensors or modules, be careful of the following.
 - Before disconnecting electrical connectors, be sure to disconnect the ground terminal from the battery sensor.
 Ref. to REPAIR CONTENTS > NOTE > BATTERY.
 - Do not apply any impact. If the parts are accidentally dropped, replace with a new part.
 - Do not expose to high-temperature and humidity.
- When replacing the parts provided with memory functions, record the memory contents before disconnecting the ground terminal from the battery sensor.
- Apply grease onto sliding or revolving surfaces before installation.
- Avoid impact and damage to the glass.

GLASS/WINDOWS/MIRRORS > General Description

COMPONENT

1. FIXED GLASS



(1) Dam rubber windshield

(2) Seal lower

(3) Glass windshield

(4) Locating pin windshield

(5) Molding windshield

(6) Seal upper

(7) Molding rear window

(8) Locating pin rear window

(9) Dam rubber rear window

(10) Glass rear window

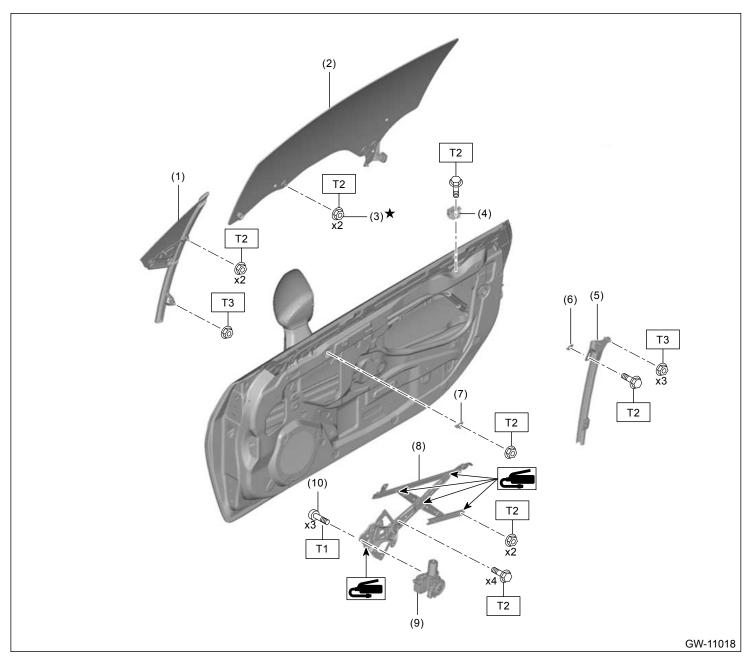
(11) Dam rubber rear quarter

(12) Glass rear quarter

Note:

Inner mirror base cannot be removed from the windshield glass.

2. FRONT DOOR GLASS

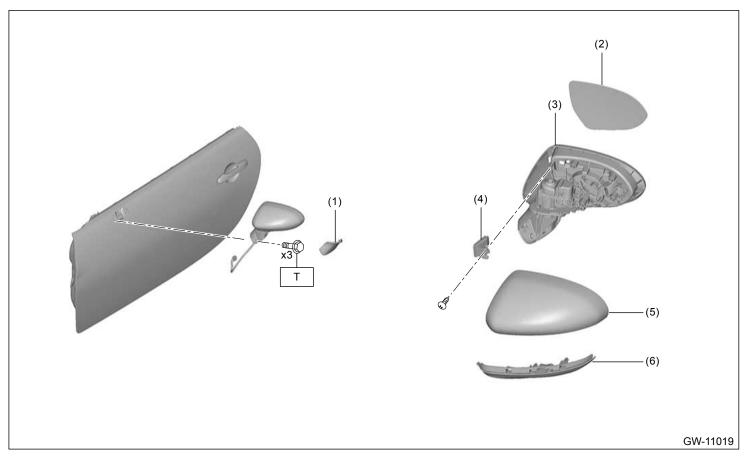


- (1) Glass ASSY front door partition
- (2) Glass ASSY front door
- (3) Flange nut
- (4) Stabilizer ASSY inner
- (5) Sash ASSY front door rear
- (6) Stopper UPR
- (7) Stopper sash
- (8) Regulator COMPL front
- (9) Motor ASSY front
- (10) TORX® screw

Tightening torque: N⋅m (kgf-m, ft-lb)

- T1: 6 (0.6, 4.4)
- T2: 7.5 (0.8, 5.5)
- T3: 14 (1.4, 10.3)

3. OUTER MIRROR



- (1) Cover cap outer mirror
- (4) Blind Spot Detection/Rear Cross Traffic Alert system indicator (model with Blind Spot Detection/Rear Cross Traffic Alert system)
- (5) Cover cap outer mirror
- (6) Cover cap outer mirror LWR

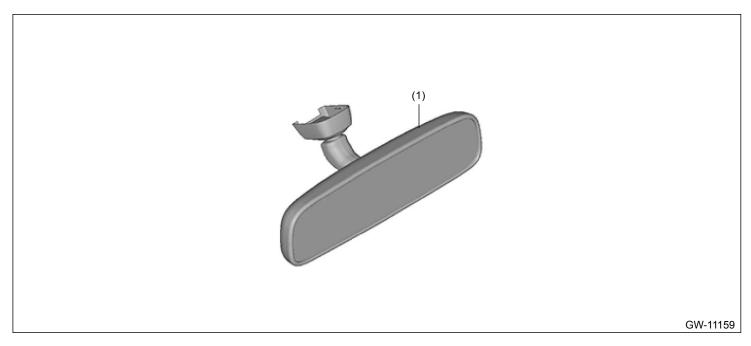
Tightening torque: N·m (kgf-m, ft-lb)

T: 7.5 (0.8, 5.5)

(2) Mirror repair

(3) Mirror unit door

4. REAR VIEW MIRROR



(1) Mirror ASSY inner rearview

GLASS/WINDOWS/MIRRORS > General Description

PREPARATION TOOL

1. SUBARU SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
ST61299CA000	61299CA000	SPECIAL TOOL DOOR	Used for adjusting the front door glass.
ST61299CA010	61299CA010	SPECIAL TOOL DOOR	Used for adjusting the front door partition glass.
	_	SUBARU SELECT	Used for setting of each function and



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troubleshooting for electrical system.

Note:

- For detailed operation procedures, refer to "Help" of application.
- Used together with interface for Subaru Select Monitor (such as DST-i and DST-010).

2. OTHER

	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
Piano wire	Used for removing the fixed glass.
Cutter knife	Used for removing the fixed glass.
Windshield glass knife	Used for removing the fixed glass.
TORX [®] T25	Used for removing and installing the regulator motor.

GLASS/WINDOWS/MIRRORS > Relay and Fuse

LOCATION

For the location, refer to "FUSE AND RELAY" in the wiring diagram. Ref. to WIRING SYSTEM>Fuse And Relay.

Note:

For details of relay and fuse, refer to "DC POWER SUPPLY CIRCUIT". Ref. to WIRING SYSTEM>Power Supply Circuit.

GLASS/WINDOWS/MIRRORS > Relay and Fuse

INSPECTION

1. CHECK FUSE

- 1. Remove the fuse and inspect visually.
- 2. If the fuse is blown out, replace the fuse.

2. CHECK RELAY

1. Check the resistance between relay terminals.

Terminal No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or	
1 — 2	Aiways	more	
1 — 2	Apply battery voltage between terminals 4 and 3.	Less than $1~\Omega$	3 4 3 4 SR-00180

2. Replace the relay if the inspection result is not within the standard value.

GLASS/WINDOWS/MIRRORS > Power Window System

WIRING DIAGRAM

For the wiring diagram, refer to "Power Window System" in the wiring diagram. <u>Ref. to WIRING SYSTEM>Power Window System>WIRING DIAGRAM.</u>

GLASS/WINDOWS/MIRRORS > Power Window System

INSPECTION

1. BASIC INSPECTION

For basic inspection, refer to "Basic Diagnostic Procedure" of "POWER WINDOW (DIAGNOSTICS)" section.

Ref. to POWER WINDOW(DIAGNOSTICS) > Basic Diagnostic Procedure.

2. SYSTEM BLOCK DIAGRAM

For system block diagram, refer to "System Block Diagram" in "POWER WINDOW (DIAGNOSTICS)" section. Ref. to POWER WINDOW (DIAGNOSTICS) > General Description > SYSTEM BLOCK DIAGRAM.

3. MODULE I/O SIGNAL

For the specification (electrical component), refer to "Control Module I/O Signal" of "POWER WINDOW (DIAGNOSTICS)" section. Ref. to POWER WINDOW (DIAGNOSTICS) > Control Module I/O Signal.

GLASS/WINDOWS/MIRRORS > Power Window System

OPERATION

1. INITIAL SETTING

This procedure performs settings of the following data.

- Top dead position
- Bottom dead position
- Sliding resistance value

Note:

- Always perform the initialization with the vehicle parked. (Initialization cannot be operated during driving)
- Perform initialization for one seat at a time.
- Do not hit or apply impact or vibration to the glass, since the sliding resistance of door glass is being learned during the initialization.
- Do not perform the ignition operation during the initialization.

Perform the initialization according to the procedures by items below.

Item	Procedure
When the regulator and motor assembly is replaced with a new part	А
When the motor power supply is lost due to removing and installing of the battery	
terminals and the regulator & motor assembly connector during the power window	Α

operation	
When the power window system was initialized by the Subaru Select Monitor	А
When a power window related part such as glass and running channel was replaced	В
When the phenomenon that the door glass does not close fully (incorrect reverse operation) occurred	В
When the phenomenon that the door glass does not open fully (incorrect stop operation) occurred	В

PROCEDURE A

- 1. Close the doors and turn the ignition switch to ON.
- 2. Operate the driver's side and passenger's side power window switch and hold the manual down operation, or hold the automatic down operation to fully open the relevant window. Continuously from that point, hold the switch for longer than one second.

Note:

- Wherever the glass is at any position, operate the switch in "DOWN" direction.
- For initialization for the passenger's seat, this can be done with the driver's side power window switch, or passenger's side power window switch.
- **3.** Operate the driver's side or passenger's side power window switch and hold the automatic up operation to fully close the relevant window. Continuously from that point, hold the switch for longer than one second.

Note:

- At this time, do not move the vehicle.
- For initialization for the passenger's seat, this can be done with the driver's side power window switch, or passenger's side power window switch.
- **4.** Perform the automatic down operation with the driver's side or passenger's side power window switch to check whether the window fully opens properly. Also, perform the automatic up operation to check whether the window fully closes properly.

Note:

- If the window does not fully open/close properly, repeat steps 1 to 4.
- For initialization for the passenger's seat, this can be done with the driver's side power window switch, or passenger's side power window switch.

• PROCEDURE B

- 1. Close the doors and turn the ignition switch to ON.
- **2.** Perform the system initialization using the Subaru Select Monitor. <a> Ref. to POWER WINDOW(DIAGNOSTICS) > Work Support>OPERATION > SYSTEM INITIALIZATION.
- **3.** Operate the driver's side and passenger's side power window switch and hold the manual down operation, or hold the automatic down operation to fully open the relevant window. Continuously from that point, hold the switch for longer than one second.

Note:

- Wherever the glass is at any position, operate the switch in "DOWN" direction.
- For initialization for the passenger's seat, this can be done with the driver's side power window switch, or passenger's side power window switch.
- 4. Operate the driver's side or passenger's side power window switch and hold the automatic up

operation to fully close the relevant window. Continuously from that point, hold the switch for longer than one second.

Note:

- At this time, do not move the vehicle.
- For initialization for the passenger's seat, this can be done with the driver's side power window switch, or passenger's side power window switch.
- **5.** Perform the automatic down operation with the driver's side or passenger's side power window switch to check whether the window fully opens properly. Also, perform the automatic up operation to check whether the window fully closes properly.

Note:

- If the window does not fully open/close properly, repeat steps 1 to 4.
- For initialization for the passenger's seat, this can be done with the driver's side power window switch, or passenger's side power window switch.

GLASS/WINDOWS/MIRRORS > Power Window System

NOTE

For procedure of the components in the power window system, refer to the sections below.

- Power window control switch: Ref. to GLASS/WINDOWS/MIRRORS>Power Window Control Switch.
- Front door glass: @ Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass.
- Front regulator and motor assembly: Ref. to GLASS/WINDOWS/MIRRORS>Front Regulator and Motor Assembly.
- Body integrated unit: Ref. to BODY CONTROL/COMMUNICATION SYSTEM>Body Integrated Unit.

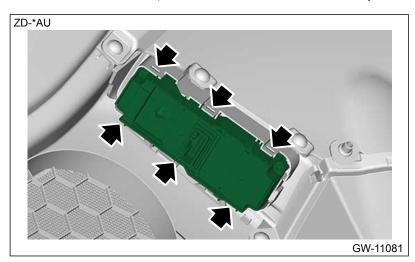
REMOVAL

1. MAIN SWITCH

Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>REMOVAL.
- **3.** Release the claws, and then remove the switch power window main.

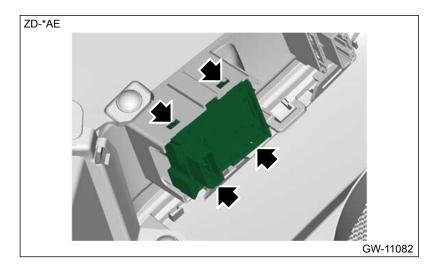


2. SUB-SWITCH

Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>REMOVAL.
- **3.** Release the claws, and then remove the switch power window sub.



GLASS/WINDOWS/MIRRORS > Power Window Control Switch

INSTALLATION

1. MAIN SWITCH

Caution:

- Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM".
 <u>Description>CAUTION.</u>
- Use protective paper to avoid damage to the trim panel.
- 1. Install the switch power window main to the trim panel front door.
- 2. Install the trim panel front door. <a> Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>INSTALLATION.
- 3. Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **4.** Perform the initial setting of the power window system. <a> Ref. to <a> GLASS/WINDOWS/MIRRORS>Power Window System>OPERATION.

2. SUB-SWITCH

Caution:

- Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.
- Use protective paper to avoid damage to the trim panel.
- 1. Install the switch power window sub to the trim panel front door.
- 2. Install the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>INSTALLATION.
- 3. Connect the ground terminal to battery sensor. September 18 Note: 8 Note: 8
- **4.** Perform the initial setting of the power window system. Ref. to GLASS/WINDOWS/MIRRORS>Power Window System>OPERATION.

GLASS/WINDOWS/MIRRORS > Power Window Control Switch

INSPECTION

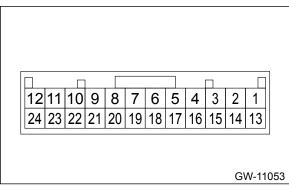
Caution:

Since the power window switch is controlled by CPU, do not check continuity for switch alone with the circuit tester, except for the specified terminals. Performing continuity check with circuit tester may damage the power window switch circuit.

For power window system inspection, refer to "POWER WINDOW (DIAGNOSTICS)" section. Ref. to POWER WINDOW(DIAGNOSTICS) > Basic Diagnostic Procedure.

1. MAIN SWITCH

1. Measure the resistance between terminals of the switch power window main.

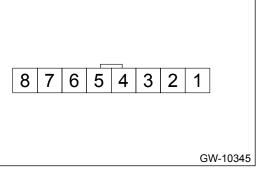


Terminal No.	Inspection conditions	Standard
13 — 1		Less than 1 Ω
18 - 1 $18 - 13$	OFF	1 M Ω or more
13 — 18		Less than 1 Ω
18 - 1 $13 - 1$	Driver's seat manual up	1 M Ω or more
1 - 18		Less than 1 Ω
18 - 13 $1 - 13$	Driver's seat manual down	1 M Ω or more

2. Replace the switch power window main if it is found defective from the inspection result.

2. SUB-SWITCH

1. Measure the resistance between terminals of the switch power window sub.



Terminal No.	Inspection conditions	Standard	
6 — 5		Less than 1 Ω	
2 – 1	OFF		
2 — 5	OI I	$1~\text{M}\Omega$ or more	
2 — 6			
2 — 6		Less than 1 Ω	
5 — 6	Manual up		
2 — 5	Handar ap	1 M Ω or more	
1 — 2			
2 — 6		Less than 1 Ω	
1 — 2	Auto up	LC35 triair 1 32	
5 — 6	Auto up	$1~\text{M}\Omega$ or more	
2 — 5		1 Hat of More	
2 — 5		Less than 1 Ω	
5 — 6	Manual down		
2 — 6	l landa down	1 M Ω or more	
1 — 2			
2 — 5		Less than 1 Ω	
1 — 2	Auto down	2000 (11011 1 32	
5 — 6	7.440 40	1 M Ω or more	
2 — 6		1 1 122 01 111010	

2. Apply battery voltage between the switch power window sub terminals to check lighting condition of illumination inside the switch.

Caution:

When applying battery voltage, do not mix up the positive (+) side and the negative (-) side.

Incorrect polarity connection may cause LED damage inside the switch.

Terminal No.	Inspection conditions	Specification
7 (+) — 2 (–)	Apply battery voltage.	Light ON

3. Replace the switch power window sub if it is found defective from the inspection result.

REMOVAL

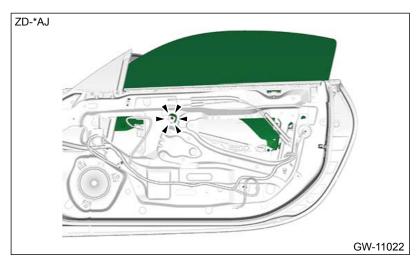


1. FRONT DOOR GLASS

Caution:

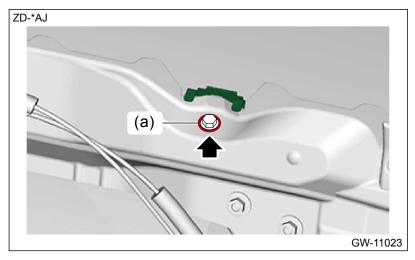
Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>REMOVAL.
- 3. Remove the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing Cover>REMOVAL.
- 4. Remove the glass assembly front door.
 - (1) Connect the power winder switch connector.
 - (2) Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
 - (3) Operate the power window switch to move the front door glass to the position where the mounting nuts can be seen.

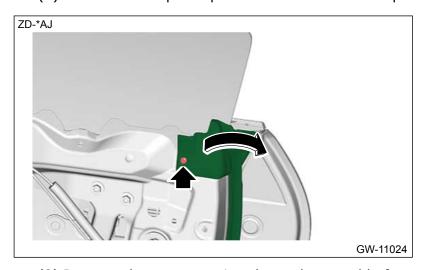


- (4) Disconnect the ground terminal from battery sensor.

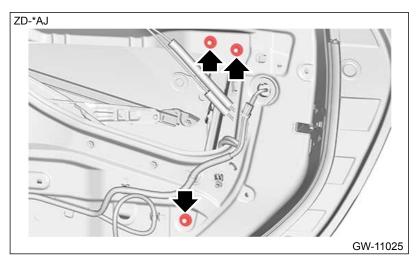
 Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- (5) Disconnect the power window switch connector.
- (6) Place alignment marks (a) around the bolt of the stabilizer assembly inner.
- (7) Remove the bolts and remove the stabilizer assembly inner.



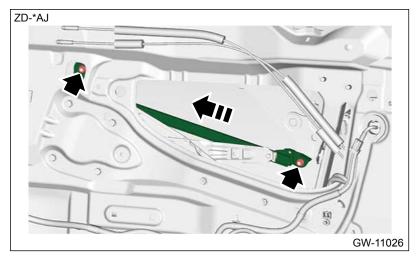
(8) Remove the clip and peel back the weather strip door front.



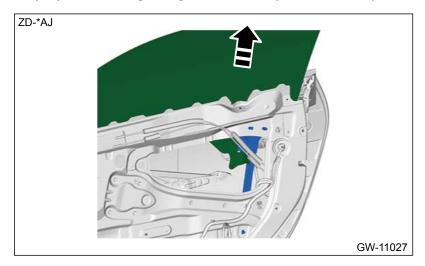
(9) Remove the nuts securing the sash assembly front door rear.



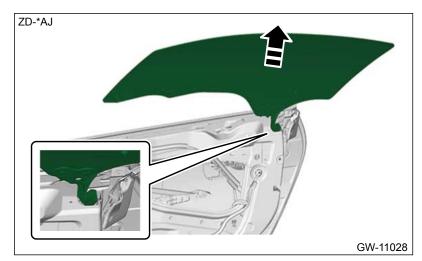
- (10)Using a flat tip screwdriver, prevent the bolt of the glass assembly front door from turning.
- (11)Remove the nut securing the glass assembly front door.
- (12)Slide the regulator COMPL front rail to the front side of the vehicle.



(13) While lifting the glass assembly front door upward, remove the sash assembly front door rear.



(14)Remove the glass assembly front door from the location shown in the figure.

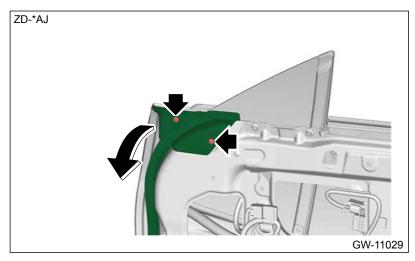


2. FRONT DOOR PARTITION GLASS

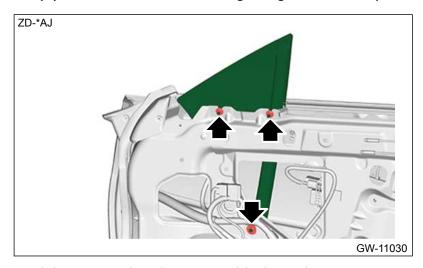
Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>REMOVAL.
- 3. Remove the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing Cover>REMOVAL.
- **4.** Remove the glass assembly front door. Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>REMOVAL > FRONT DOOR GLASS.
- **5.** Remove the glass assembly front door partition.
 - (1) Remove the clip and peel back the weather strip door front.



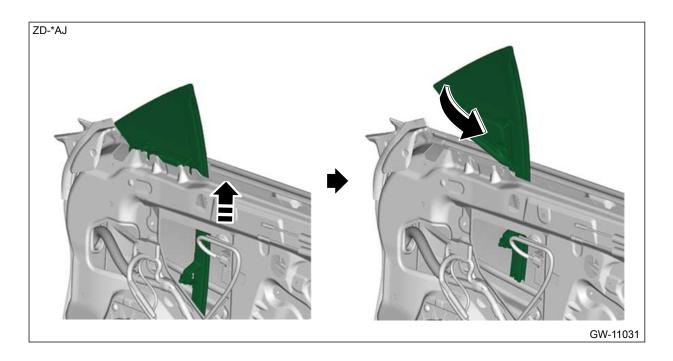
(2) Remove the nuts securing the glass assembly front door partition.



(3) Remove the glass assembly front door partition as shown in the figure.

Note:

Perform work so that the bolt of the glass assembly front door partition does not cause interference.



GLASS/WINDOWS/MIRRORS > Front Door Glass

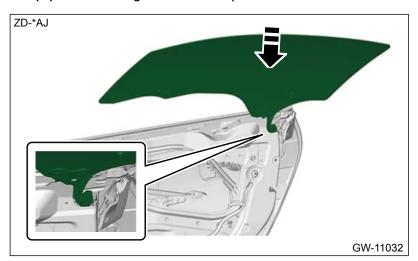
INSTALLATION

1. FRONT DOOR GLASS

Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Install the glass assembly front door.
 - (1) Temporarily install the sash assembly front door rear.
 - (2) Insert the glass assembly front door from the location shown in the figure.



- (3) Insert the glass assembly front door slider into the sash assembly front door rear.
- (4) Using new nuts, install the glass assembly front door on the regulator COMPL front. **Tightening torque:**

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

(5) Tighten the nuts that secure the sash assembly front door rear.

Tightening torque:

14 N·m (1.4 kgf-m, 10.3 ft-lb)

- (6) Install the weather strip door front.
- (7) Install the stabilizer assembly inner by matching the alignment marks.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

- **2.** Adjust the glass assembly front door. Front Door Glass>ADJUSTMENT." Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>ADJUSTMENT.
- **3.** Install the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing Cover>INSTALLATION.
- 4. Install the trim panel front door. <a> Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>INSTALLATION.
- 5. Connect the ground terminal to battery sensor. <a> Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- **6.** Perform the initial setting of the power window system. <a> Ref. to <a> GLASS/WINDOWS/MIRRORS>Power Window System>OPERATION.

2. FRONT DOOR PARTITION GLASS

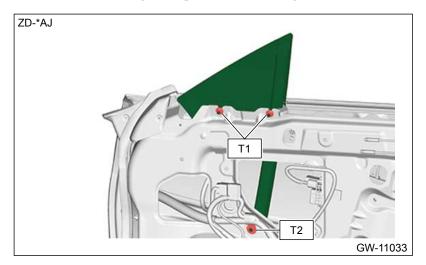
Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Install the glass assembly front door partition.

Tightening torque:

T1: 7.5 N·m (0.8 kgf-m, 5.5 ft-lb) T2: 14 N·m (1.4 kgf-m, 10.3 ft-lb)



- 2. Install the weather strip door front.
- **3.** Install the glass assembly front door. Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>INSTALLATION > FRONT DOOR GLASS.
- **4.** Adjust the glass assembly front door partition and the glass assembly front door. <u>Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>ADJUSTMENT.</u>
- 5. Install the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing

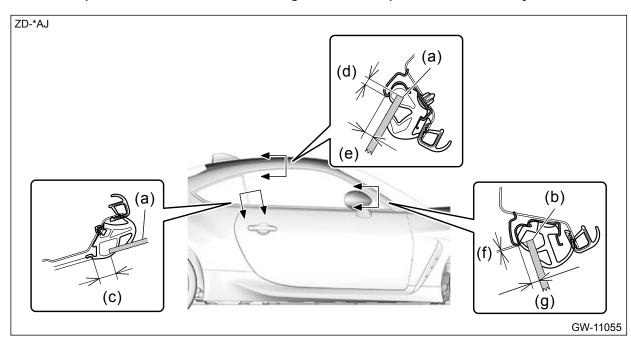
Cover>INSTALLATION.

- 6. Install the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>INSTALLATION.
- 7. Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **8.** Perform the initial setting of the power window system. <u>Ref. to GLASS/WINDOWS/MIRRORS>Power Window System>OPERATION.</u>

GLASS/WINDOWS/MIRRORS > Front Door Glass

ADJUSTMENT

Check the placement dimensions of the glass assembly front door and adjust if necessary.

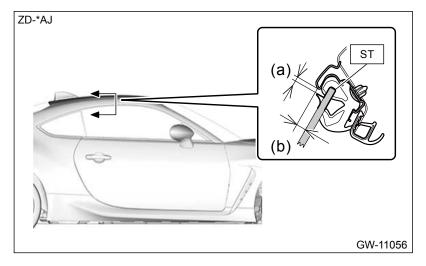


- (a) Glass ASSY front door
- (b) Glass ASSY front door partition
- (c) 13.5 16.5 mm (0.53 0.65 in)
- (d) 3.5 6.5 mm (0.14 0.26 in)
- (e) 5.2 8.2 mm (0.20 0.32 in)
- (f) -1.0 2.0 mm (-0.04 0.08 in)
- (g) 5.5 8.5 mm (0.22 0.33 in)

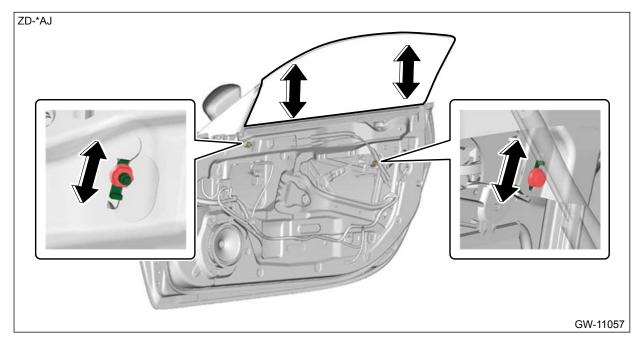
1. FRONT DOOR GLASS

Using the ST, measure the placement dimensions of the glass assembly front door.
 Preparation tool:

ST: SPECIAL TOOL DOOR (61299CA000)



- (a) 2.5 5.5 mm (0.10 0.22 in)
- (b) 5.2 8.2 mm (0.20 0.32 in)
- 2. Adjust the glass assembly front door in the vertical directions.
 - (1) Loosen the stopper sash nut and the stopper UPR bolt.
 - (2) Adjust the glass assembly front door in the vertical directions.

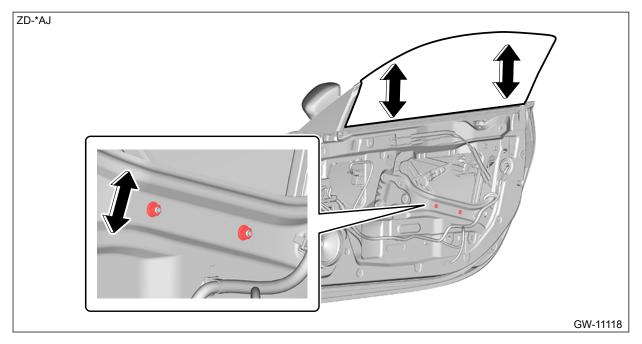


(3) Tighten the stopper sash nut and the stopper UPR bolt.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

- (4) Loosen the nuts of the regulator & motor assembly front.
- (5) Adjust the glass assembly front door in the vertical directions.

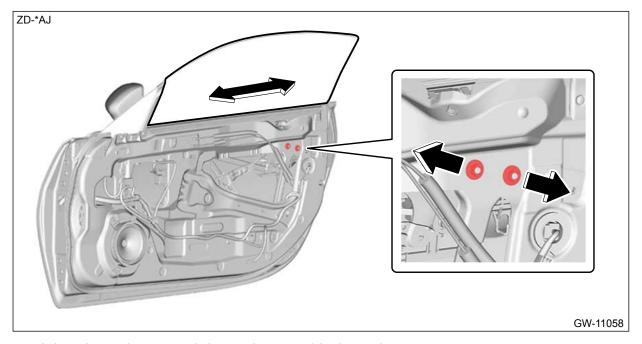


(6) Tighten the nuts of the regulator & motor assembly front.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

- **3.** Adjust the glass assembly front door in the front-rear direction.
 - (1) Loosen the upper nuts of the sash assembly front door rear.
 - (2) Adjust the glass assembly front door in the front-rear direction.

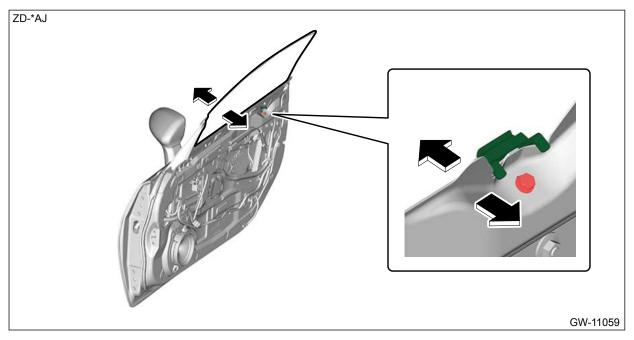


(3) Tighten the nuts of the sash assembly front door rear.

Tightening torque:

14 N·m (1.4 kgf-m, 10.3 ft-lb)

- 4. Adjust the glass assembly front door in the left-right direction.
 - (1) Loosen the bolt of the stabilizer assembly inner.
 - (2) Adjust the glass assembly front door in the left-right direction.



(3) Tighten the bolt of the stabilizer assembly inner.

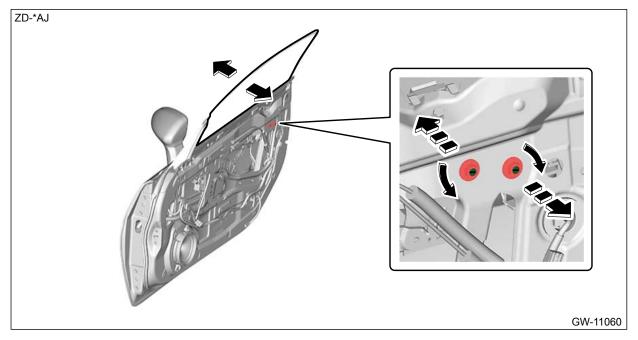
Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

- (4) Loosen the upper nuts of the sash assembly front door rear.
- (5) Using a flat tip screwdriver, rotate the adjusting bolt and adjust the left-right direction of the glass assembly front door.

Note:

Rotate the adjusting bolt clockwise to move the glass assembly front door towards the vehicle interior.



(6) Tighten the nuts of the sash assembly front door rear.

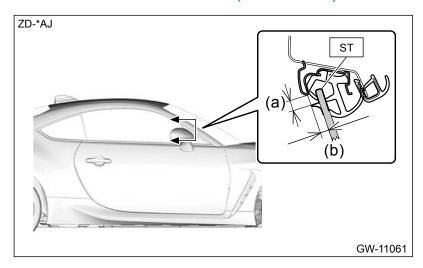
Tightening torque:

14 N·m (1.4 kgf-m, 10.3 ft-lb)

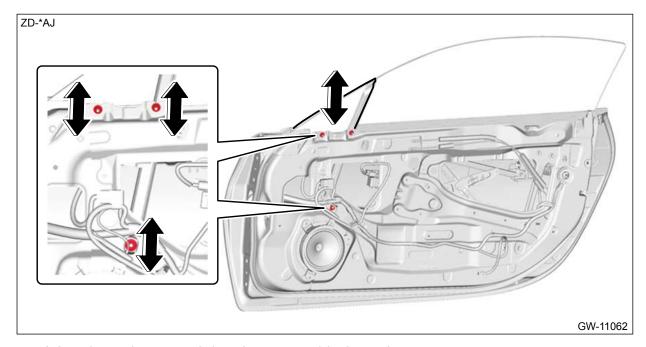
2. FRONT DOOR PARTITION GLASS

Using the ST, measure the placement dimensions of the glass assembly front door partition.
 Preparation tool:

ST: SPECIAL TOOL DOOR (61299CA010)



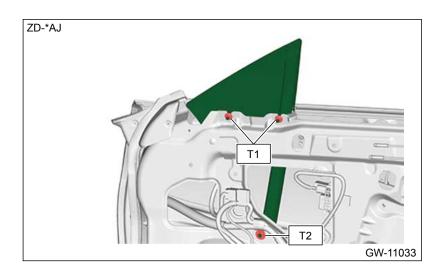
- (a) 2.5 5.5 mm (0.10 0.22 in)
- (b) 5.2 8.2 mm (0.20 0.32 in)
- 2. Adjust the glass assembly front door partition in the vertical directions.
 - (1) Loosen the nuts of the glass assembly front door partition.
 - (2) Adjust the glass assembly front door partition in the vertical directions.



(3) Tighten the nuts of the glass assembly front door partition.

Tightening torque:

T1: 7.5 N·m (0.8 kgf-m, 5.5 ft-lb) T2: 14 N·m (1.4 kgf-m, 10.3 ft-lb)



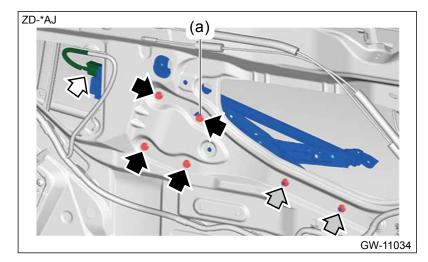
GLASS/WINDOWS/MIRRORS > Front Regulator and Motor Assembly

REMOVAL

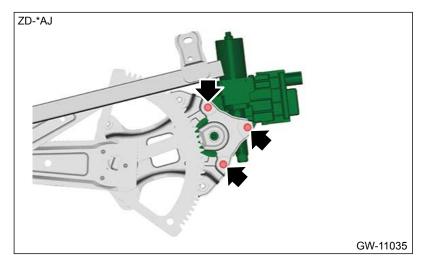
Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>REMOVAL.
- 3. Remove the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing Cover>REMOVAL.
- **4.** Remove the glass assembly front door. Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>REMOVAL > FRONT DOOR GLASS.
- 5. Remove the regulator & motor assembly front.
 - (1) Disconnect the connector.
 - (2) Loosen the tack bolt (a).
 - (3) Remove the bolts and nuts other than the tack bolt (a).
 - (4) Remove the tack bolt (a), and then remove the regulator & motor assembly front.



6. Using the $TORX^{\mathbb{R}}$ T25, loosen the screws and remove the motor assembly front.



GLASS/WINDOWS/MIRRORS > Front Regulator and Motor Assembly

INSTALLATION

Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- **1.** Before installation, check the following items.
 - Is the rail free from deformation?
 - Is grease applied sufficiently to the motor gear section and rail?

 If grease is insufficient, add it as necessary before assembling the regulator & motor assembly front.

Preparation items:

Grease: Chassis grease or equivalent

2. Using the TORX[®] T25, install the motor assembly front.

Tightening torque:

6 N·m (0.6 kgf-m, 4.4 ft-lb)

- 3. Install the regulator & motor assembly front.
 - (1) Temporarily install the regulator & motor assembly front using the tack bolt (a).
 - (2) Install the bolts and nuts other than the tack bolt (a).

Tightening torque:

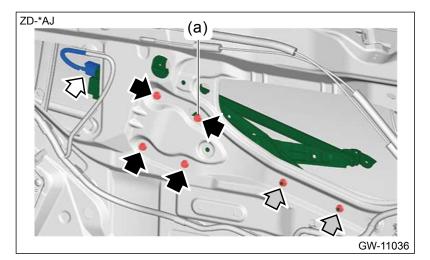
7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

(3) Tighten the tack bolts (a).

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

(4) Connect the connector.



- **4.** Install the glass assembly front door. Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>INSTALLATION > FRONT DOOR GLASS.
- **5.** Adjust the glass assembly front door. <a>Ref. to GLASS/WINDOWS/MIRRORS>Front Door Glass>ADJUSTMENT.
- **6.** Install the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing Cover>INSTALLATION.
- 7. Install the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>INSTALLATION.

- **8.** Connect the ground terminal to battery sensor. <a> Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- **9.** Perform the initial setting of the power window system. Ref. to GLASS/WINDOWS/MIRRORS>Power Window System>OPERATION.

GLASS/WINDOWS/MIRRORS > Front Regulator and Motor Assembly

INSPECTION

For inspection of regulator & motor assembly front, refer to "POWER WINDOW (DIAGNOSTICS)" section.

Ref. to POWER WINDOW(DIAGNOSTICS) > Active Test.

GLASS/WINDOWS/MIRRORS > Remote Control Mirror System

WIRING DIAGRAM

For the wiring diagram, refer to "Remote Control Mirror System" in the wiring diagram. Ref. to WIRING SYSTEM>Remote Control Mirror System.

GLASS/WINDOWS/MIRRORS > Remote Control Mirror System

INSPECTION

1. TROUBLE SYMPTOM

Note:

The mirror heater operates with the rear window defogger at the same time. Refer to "INSPECTION" of "Rear Window Defogger System" for details. Ref. to GLASS/WINDOWS/MIRRORS>Rear Window Defogger System>INSPECTION.

Symptoms	Inspection order
	1. Check the fuse
All functions do not operate.	2. Check the remote control mirror switch
	3. Check the wiring harness
	Check the remote control mirror switch
One side of the mirror motor does not operate	2. Check the mirror motor
	3. Check the wiring harness
	Check the rear defogger switch
	2. Check the rear defogger relay
Mirror heater does not operate	3. Check the mirror heater
	4. Check the wiring harness
	5. Check body integrated unit

GLASS/WINDOWS/MIRRORS > Remote Control Mirror System

NOTE

For procedure of components in the remote control mirror system, refer to the sections below.

- Outer mirror assembly: <a> Ref. to GLASS/WINDOWS/MIRRORS>Outer Mirror Assembly.
- Remote control mirror switch: Ref. to GLASS/WINDOWS/MIRRORS>Remote Control Mirror Switch.

GLASS/WINDOWS/MIRRORS > Outer Mirror Assembly

REMOVAL

Caution:

Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

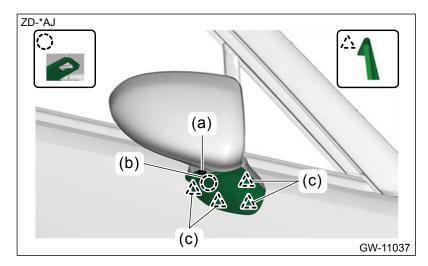
Note:

Refer to "DISASSEMBLY" for removal procedures of outer mirror cover and mirror face.
Ref. to GLASS/WINDOWS/MIRRORS>Outer Mirror Assembly>DISASSEMBLY.

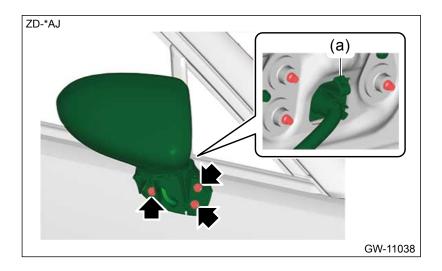
- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Remove the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>REMOVAL.
- **3.** Turn over the sealing cover door front.

Caution:

- Carefully remove the butyl tape. Excessive force will easily break the front sealing
- If the front sealing cover gets broken, replace it with a new part.
- Be careful not to allow the butyl tape to contact any trims and seats because the butyl tape, which has a strong adhesive force, is difficult to remove once it adhered.
- **4.** Remove the cover cap outer mirror.
 - (1) Put the outer mirror assembly in the folding position.
 - (2) Release the claw (b) from the slit (a) using a flat tip screwdriver or similar tool wrapped with protection tape.
 - (3) Release the claws (c), and then remove the cover cap outer mirror.



- Remove the outer mirror assembly.
 - (1) Disconnect the connector.
 - (2) Remove the bolts and the temporary clip (a) to remove outer mirror assembly.



GLASS/WINDOWS/MIRRORS > Outer Mirror Assembly

INSTALLATION

Caution:

- Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.
- Be careful not to catch the harness in between the parts.
- **1.** Install the outer mirror assembly.
 - (1) Engage the temporary clip and temporally install the outer mirror assembly.
 - (2) Install the bolts, and connect the connector.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

- **2.** Install the cover cap outer mirror.
- **3.** Install the sealing cover door front. Ref. to EXTERIOR BODY PANELS>Sealing Cover>INSTALLATION.
- 4. Install the trim panel front door. Ref. to EXTERIOR/INTERIOR TRIM>Door Trim>INSTALLATION.
- 5. Connect the ground terminal to battery sensor. Selection Ref. to REPAIR CONTENTS > NOTE > BATTERY.

GLASS/WINDOWS/MIRRORS > Outer Mirror Assembly

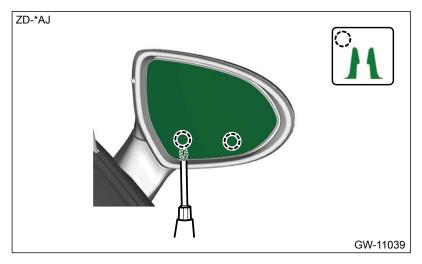
DISASSEMBLY

- 1. Disconnect the ground terminal from battery sensor. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- **2.** Remove the mirror repair.

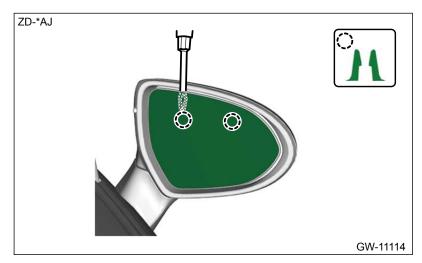
Caution:

When removing the mirror repair, be careful not to damage the back surface of mirror repair with a flat tip screwdriver or similar tool.

- (1) Push the top of the mirror repair so that the mirror repair faces upward.
- (2) Release the claws using a flat tip screwdriver or similar tool.



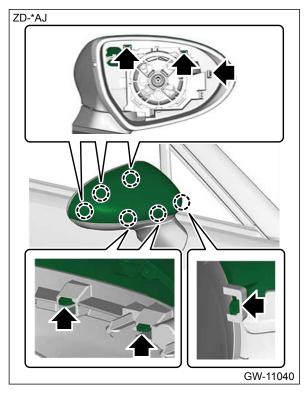
- (3) Push the bottom of the mirror repair so that the mirror repair faces downward.
- (4) Release the claws using a flat tip screwdriver or similar tool.



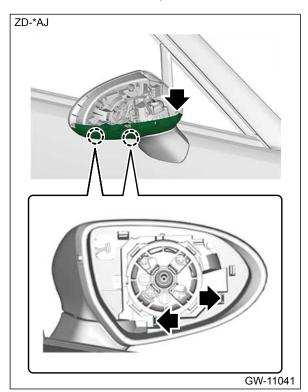
- (5) Disconnect the connector. (Model with mirror heater)
- **3.** Release the claws, and then remove the cover cap outer mirror.

Caution:

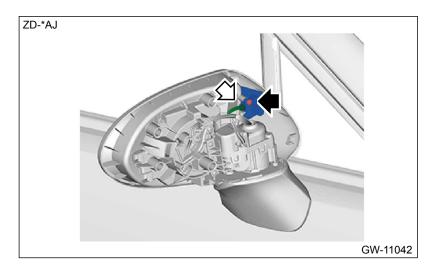
Be careful not to apply excessive force when removing the outer mirror cover, as the lower hooks may become damaged.



4. Release the claws, and then remove the cover cap outer mirror LWR.



- **5.** Remove the Blind Spot Detection/Rear Cross Traffic Alert system indicator. (Model with Blind Spot Detection/Rear Cross Traffic Alert system)
 - (1) Disconnect the connector.
 - (2) Remove the screws and then remove the Blind Spot Detection/Rear Cross Traffic Alert system indicator.



GLASS/WINDOWS/MIRRORS > Outer Mirror Assembly

ASSEMBLY

Caution:

Be careful not to catch the harness in between the parts.

- 1. Install the Blind Spot Detection/Rear Cross Traffic Alert system indicator. (Model with Blind Spot Detection/Rear Cross Traffic Alert system)
 - (1) Install the Blind Spot Detection/Rear Cross Traffic Alert system indicator.
 - (2) Connect the connector and install waterproof packing.
- 2. Install the cover cap outer mirror LWR.
- 3. Install the cover cap outer mirror.
- **4.** Install the mirror repair.

Note:

Make sure that the connector and clips are inserted securely.

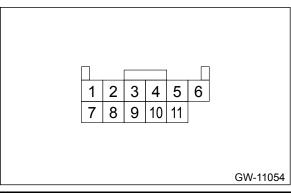
- (1) Connect the connector. (Model with mirror heater)
- (2) Install the mirror repair.
- 5. Connect the ground terminal to battery sensor. <a> Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- **6.** For models with Blind Spot Detection/Rear Cross Traffic Alert system, perform operation check of Blind Spot Detection/Rear Cross Traffic Alert system. Ref. to Blind Spot Detection/Rear Cross Traffic Alert (DIAGNOSTICS)>Basic Diagnostic Procedure.

GLASS/WINDOWS/MIRRORS > Outer Mirror Assembly

INSPECTION

1. CHECK MOTOR OPERATION

1. Apply battery voltage between the outer mirror connector terminals and check the mirror operation.



Terminal No.	Inspection conditions	Operating position
_	_	OFF
5 (+) — 6 (-)	Apply battery voltage between terminals.	UP
6 (+) — 5 (-)	Apply battery voltage between terminals.	DOWN
5 (+) - 4 (-)	Apply battery voltage between terminals.	RIGHT
4 (+) — 5 (-)	Apply battery voltage between terminals.	LEFT

2. If it does not operate normally, replace the outer mirror assembly.

2. CHECK OPERATION OF Blind Spot Detection/Rear Cross Traffic Alert INDICATOR

- 1. Check the Blind Spot Detection/Rear Cross Traffic Alert system. Ref. to Blind Spot Detection/Rear Cross Traffic Alert (DIAGNOSTICS)>Basic Diagnostic Procedure.
- 2. Check the outer mirror assembly.
 - (1) Check that the Blind Spot Detection/Rear Cross Traffic Alert system indicator of the outer mirror assembly illuminates normally when the BSD/RCTA is turned ON while it is installed to the vehicle.
 - (2) If it does not illuminate normally, replace the Blind Spot Detection/Rear Cross Traffic Alert system indicator.
 - (3) Check that it illuminates normally again. If it does not illuminate normally, replace the outer mirror assembly.

GLASS/WINDOWS/MIRRORS > Remote Control Mirror Switch

NOTE

The remote control mirror switch is integrated into the power window control switch.

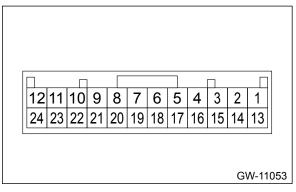
For the operation procedures for the remote control mirror switch, refer to "Power Window Control Switch".

Ref. to GLASS/WINDOWS/MIRRORS>Power Window Control Switch.

GLASS/WINDOWS/MIRRORS > Remote Control Mirror Switch

INSPECTION

1. Check the resistance between switch door mirror terminals.



• Changeover switch RH

Terminal No.	Inspection conditions	Standard
2-6 $2-10$	OFF	1 M Ω or more
2 - 10 $11 - 6$	UP	Less than 1 Ω
2 - 11 $10 - 6$	DOWN	Less than 1 Ω
2 — 12 10 — 6	LEFT	Less than 1 Ω
2 - 10 $12 - 6$	RIGHT	Less than 1 Ω

• Changeover switch LH

Terminal No.	Inspection conditions	Standard
2 — 6 2 — 7	OFF	1 M Ω or more
2 — 7 8 — 6	UP	Less than 1 Ω
2 — 8 7 — 6	DOWN	Less than 1 Ω
2 — 9		

7 — 6	LEFT	Less than 1 Ω
2 — 7 9 — 6	RIGHT	Less than 1 Ω

2. Apply battery voltage between the switch door mirror terminals to check lighting condition of illumination inside the switch.

Caution:

When applying battery voltage, do not mix up the positive (+) side and the negative (-) side.

Incorrect polarity connection may cause LED damage inside the switch.

Terminal No.	Inspection conditions	Specification
3 (+) - 5 (-)	Apply battery voltage.	Light ON

3. Replace the switch power window main if it is found defective from the inspection result.

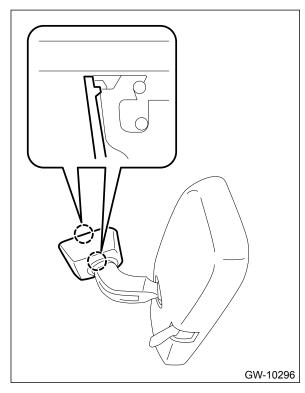
GLASS/WINDOWS/MIRRORS > Rearview Mirror

REMOVAL

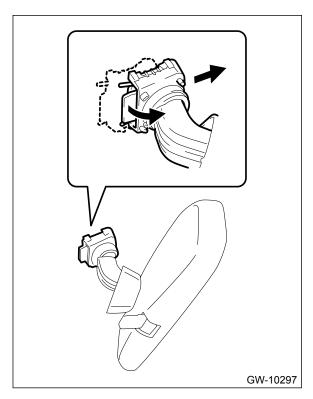
Caution:

Be careful not to damage the mirror surface and the glass windshield.

- **1.** Remove the mirror assembly inner rearview.
 - (1) Release the claws and remove the mount section cover.



(2) Pull the lock lever in the arrow direction, and slide the mirror assembly inner rearview to remove.



2. Replace the glass windshield if the base inner mirror is damaged.

GLASS/WINDOWS/MIRRORS > Rearview Mirror

INSTALLATION

- 1. Install the mirror assembly inner rearview.
 - (1) Slide the mirror assembly inner rearview to install.
 - (2) Install the mount section cover.

GLASS/WINDOWS/MIRRORS > Rearview Mirror

INSPECTION

1. VISUAL INSPECTION

Check that the mirror assembly inner rearview and inner mirror base for damage.

REMOVAL



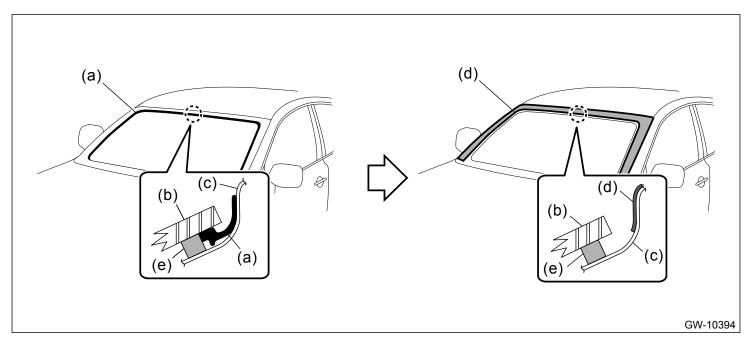
1. WHEN USING WINDSHIELD GLASS KNIFE

Caution:

- Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM".
 Description>CAUTION.
- Use the Subaru genuine windshield glass specially designed for EyeSight. (If the windshield glass other than the glass specially designed for EyeSight is used, the visibility of the camera is blocked or the distortion of the glass prevents the correct measurement of the object, resulting in the EyeSight abnormal operation.)
- If the windshield glass is installed after removal or replaced, perform the "Inspection" and "Adjustment and check" of the stereo camera.
 - Inspection: Ref. to EyeSight (DIAGNOSTICS)>General Description>INSPECTION.

 Adjustment and check: Ref. to EyeSight>Camera Adjustment, Inspection.
- If the damage is found in the glass repair prohibited area, always replace the glass.

 Damage, dirt, aftermarket part installation or sticker attachment in the prohibited area can affect the recognition of each camera, and thereby the EyeSight and high beam assist functions may not operate properly. Ref. to CAUTION > CHECK WINDSHIELD GLASS INCLUDING PROHIBITED AREA FOR MODEL WITH EyeSight.
- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- **2.** Remove the trim panel assembly A pillar. Ref. to EXTERIOR/INTERIOR TRIM>Upper Inner Trim>REMOVAL > A PILLAR TRIM.
- **3.** Remove the mirror assembly inner rearview. Ref. to GLASS/WINDOWS/MIRRORS>Rearview Mirror>REMOVAL.
- **4.** Remove the cover assembly stereo camera and stereo camera. (Models with EyeSight) <u>Ref. to EyeSight>Stereo Camera>REMOVAL.</u>
- **5.** Remove the arm assembly windshield wiper. Ref. to WIPER AND WASHER SYSTEMS>Front Wiper Arm>REMOVAL.
- 6. Remove the cowl panel assembly. Ref. to EXTERIOR/INTERIOR TRIM>Cowl Panel>REMOVAL.
- **7.** Remove the molding windshield from the glass windshield, and attach protective tape on the body side of the circumference of the glass windshield.



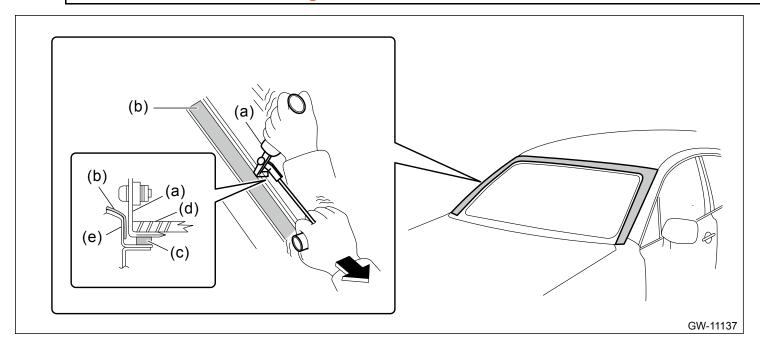
- (a) Molding windshield
- (c) Body panel

(e) Adhesive

- (b) Glass windshield
- (d) Protective tape
- **8.** Remove the glass windshield.
 - (1) Apply sufficient amount of soapy water to the adhesive part and insert the windshield glass knife.
 - (2) While holding the edges of the knife and the glass windshield at a right angle, move the windshield glass knife parallel to the edge of the glass windshield, and cut the adhesive along the surface and the edge of the glass windshield.

Caution:

- Cutting of adhesive part should be started from an area with wider gap between the windshield glass and the body.
- Never twist the windshield glass knife.



- (a) Windshield glass knife
- (c) Adhesive

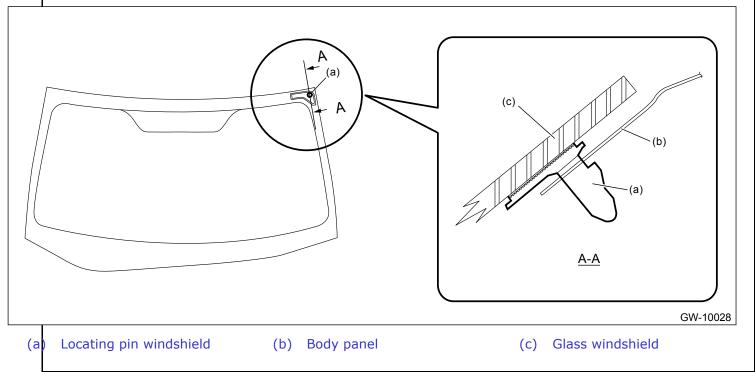
(e) Body panel

(b) Protective tape

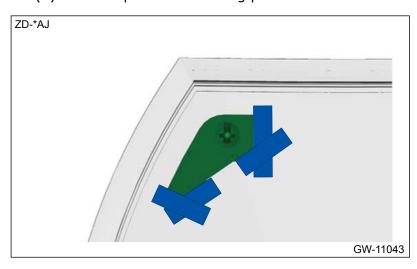
- (d) Glass windshield
- (3)Disconnect the locating pin windshield and remove the glass windshield.

Note:

The locating pin windshield is bonded to the corners of glass windshield. Use piano wire to disconnect the pins.



- **9.** Remove the locating pin windshield. (When reusing the glass)
 - (1) Attach tape to the locating pin windshield outer surface to identify the installation position.



(2) Using a scraper, etc., remove locating pin windshield (two places).

Note:

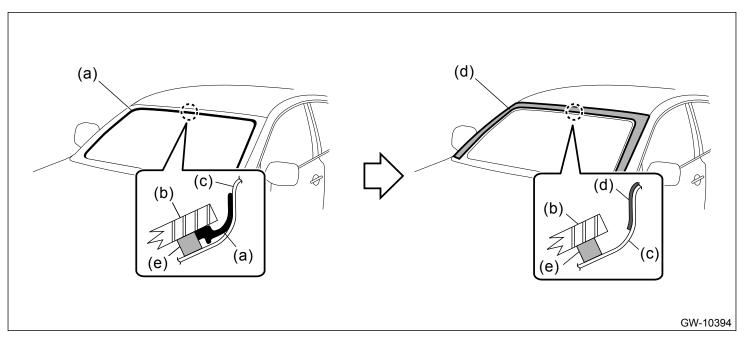
Do not remove the tape because it is used to refer to the installation position.

2. WHEN USING PIANO WIRE

Caution:

- Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM".
 <u>Description>CAUTION.</u>
- Use the Subaru genuine windshield glass specially designed for EyeSight. (If the windshield glass other than the glass specially designed for EyeSight is used, the visibility of the camera is blocked or the distortion of the glass prevents the correct measurement of the object, resulting in the EyeSight abnormal operation.)
- If the windshield glass is installed after removal or replaced, perform the "Inspection" and "Adjustment and check" of the stereo camera.
 - Inspection: Ref. to EyeSight (DIAGNOSTICS)>General Description>INSPECTION.

 Adjustment and check: Ref. to EyeSight>Camera Adjustment, Inspection.
- If the damage is found in the glass repair prohibited area, always replace the glass.
 Damage, dirt, aftermarket part installation or sticker attachment in the prohibited area can affect the recognition of each camera, and thereby the EyeSight and high beam assist functions may not operate properly. Ref. to CAUTION > CHECK WINDSHIELD GLASS INCLUDING PROHIBITED AREA FOR MODEL WITH EyeSight.
- Do not tightly pull the piano wire against the windshield glass edge.
- Do not cross piano wires. Otherwise they may be cut.
- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- **2.** Remove the trim panel assembly A pillar. Ref. to EXTERIOR/INTERIOR TRIM>Upper Inner Trim>REMOVAL > A PILLAR TRIM.
- **3.** Remove the mirror assembly inner rearview. Ref. to GLASS/WINDOWS/MIRRORS>Rearview Mirror>REMOVAL.
- **4.** Remove the cover assembly stereo camera and stereo camera. (Models with EyeSight) <u>Ref. to EyeSight>Stereo Camera>REMOVAL.</u>
- **5.** Remove the arm assembly windshield wiper. Ref. to WIPER AND WASHER SYSTEMS>Front Wiper Arm>REMOVAL.
- 6. Remove the cowl panel assembly. Ref. to EXTERIOR/INTERIOR TRIM>Cowl Panel>REMOVAL.
- **7.** Remove the molding windshield from the glass windshield, and attach protective tape on the body side of the circumference of the glass windshield.



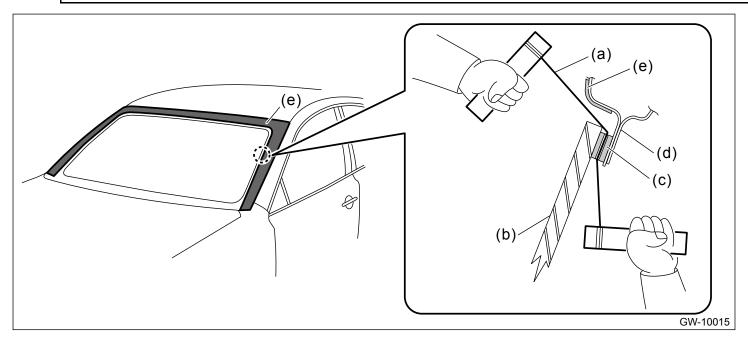
- (a) Molding windshield
- (c) Body panel

(e) Adhesive

- (b) Glass windshield
- (d) Protective tape
- 8. Remove the glass windshield.
 - (1) Pass a piano wire through the adhesive part.
 - (2) Pull the piano wire ends alternately to cut off the adhesive part and locating pin windshield.

Caution:

Attach a piece of wood to both piano wire ends.

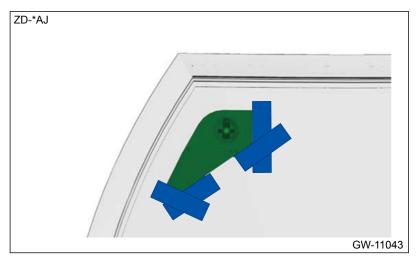


(a) Piano wire

(c) Adhesive

(e) Protective tape

- (b) Glass windshield
- (d) Body panel
- **9.** Remove the locating pin windshield. (When reusing the glass)
 - (1) Attach tape to the locating pin windshield outer surface to identify the installation position.



(2) Using a scraper, etc., remove locating pin windshield (two places).

Note:

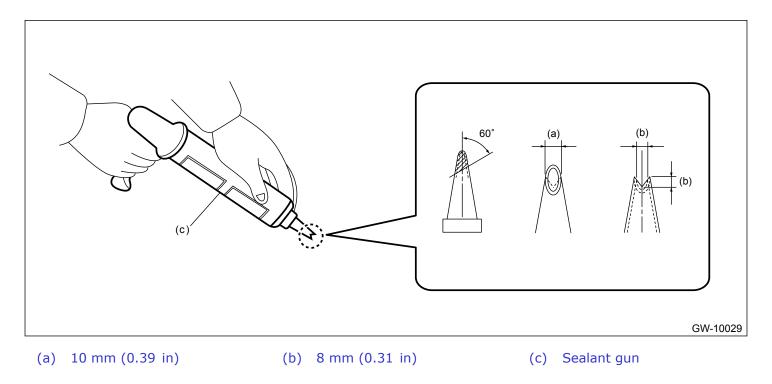
Do not remove the tape because it is used to refer to the installation position.

GLASS/WINDOWS/MIRRORS > Windshield Glass

INSTALLATION

Caution:

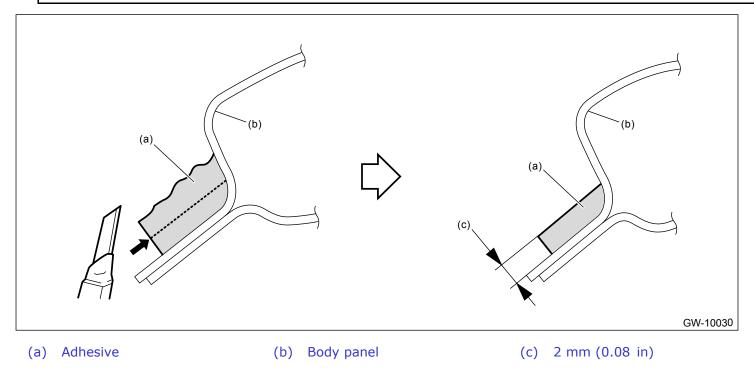
- Always use the Subaru genuine windshield glass specially designed for EyeSight. (If the
 windshield glass other than the glass specially designed for EyeSight is used, the visibility
 of the camera is blocked or the distortion of the glass prevents the correct measurement of
 the object, resulting in the EyeSight abnormal operation.)
- For installation of the stereo camera, refer to "INSTALLATION", "Stereo Camera" in the
 "EyeSight" section and observe the precautions for installation.
 Ref. to EyeSight>Stereo
 Camera>INSTALLATION.
- If the damage is found in the glass repair prohibited area, always replace the glass.
 Damage, dirt, aftermarket part installation or sticker attachment in the prohibited area can affect the recognition of each camera, and thereby the EyeSight and high beam assist functions may not operate properly. Ref. to CAUTION > CHECK WINDSHIELD GLASS INCLUDING PROHIBITED AREA FOR MODEL WITH EyeSight.
- 1. Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



2. Remove the adhesive layer on the body using cutter knife to obtain smooth face of 2 mm (0.08 in) thick.

Caution:

- Be careful not to damage the body and paint surface.
- Be sure to keep some amount of old adhesive.



- 3. Clean the glass windshield and body.
 - (1) Using a scraper, remove adhesive and double-sided tape left on the glass windshield.
 - (2) Clean the glass windshield and the body with alcohol or appropriate cleaning solvent to completely eliminate cutting powder, dust and dirt.

- 4. Install a new locating pin windshield. (When reusing the glass)
 - (1) Using a sponge, apply primer to the locating pin windshield installation position on the glass windshield.

Note:

- Let primer dry for about one hour before installing the locating pin windshield.
- Do not touch the surface coated with primer.

Preparation items

Glass primer: Dow Automotive ESSEX U-401, U402 or equivalent

(2) Apply adhesive to the locating pin windshield adhesive surface.

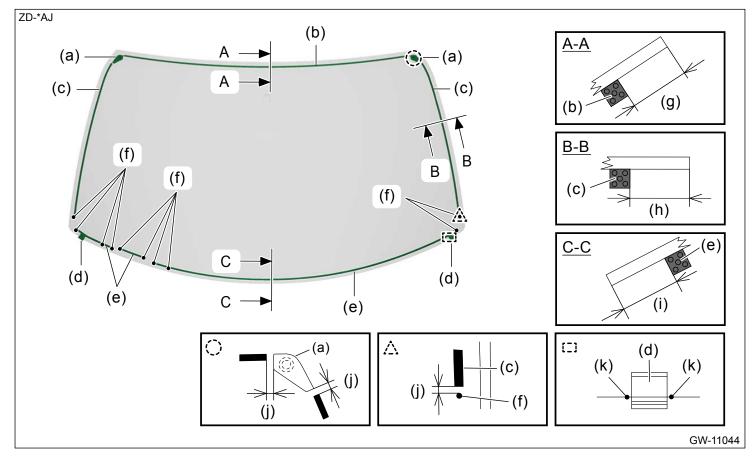
Preparation items:

Adhesive: Dow Automotive ESSEX U-400HV or equivalent

- (3) Install a new locating pin windshield to the positions marked with tapes (two places), and remove the tapes.
- 5. Attach a new dam rubber front to the glass windshield.

Note:

Attach the dam rubber straight between the dam rubber set marks while aligning with the dam rubber set mark.



- (a) Locating pin windshield
- (b) Dam rubber front upper
- (c) Dam rubber front side
- (d) Seal lower

- (e) Dam rubber front lower
- (f) Dam rubber set mark
- (g) 15.3 mm (0.60 in)
- (h) 14.8 mm (0.58 in)
- (i) 13 mm (0.51 in)
- (j) 3 mm (0.12 in) or less
- (k) Seal lower set mark

6. Install a new molding windshield to the glass windshield.

Caution:

Be careful to attach the windshield molding so that the molding has no loose or undulating part.

(1) Using a sponge, apply primer to the molding installation surface in the glass windshield side.

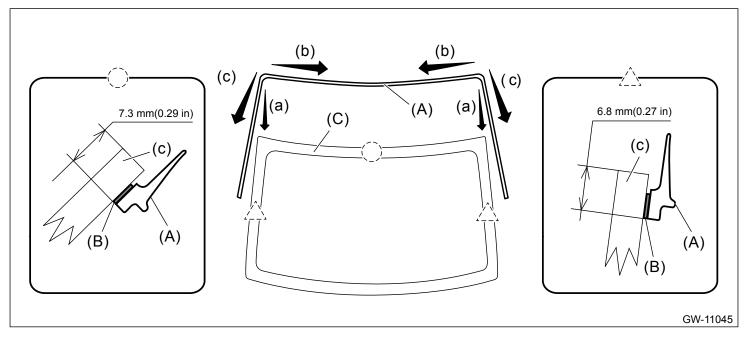
Note:

- Let primer dry for about ten minutes before installing the windshield molding.
- Do not touch the surface coated with primer.

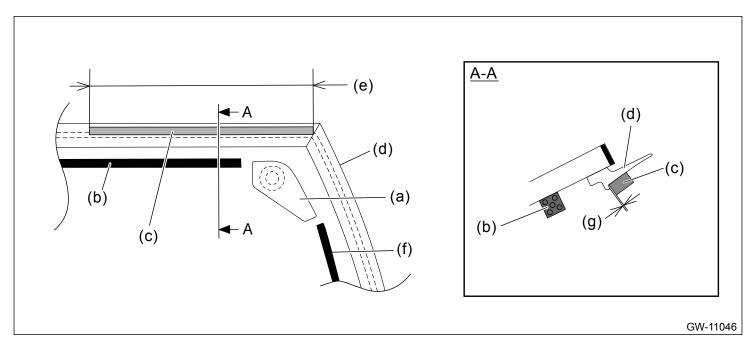
Preparation items

Glass primer: Dow Automotive ESSEX U401, U402 or equivalent

- (2) Align the molding windshield (A) with both ends of the upper edge (a) of the glass windshield (C).
- (3) Install the molding windshield from both corners of the upper edge toward the center (b).
- (4) Install the molding windshield from both corners of the upper edge toward the lower side (c).
- (5) Firmly apply the double sided tape (B) of the molding windshield evenly to the glass windshield surface.



7. Attach the seal upper to the molding windshield.



- (a) Locating pin windshield
- (d) Molding windshield
- (f) Dam rubber front side

- (b) Dam rubber front upper
- (e) 165 mm (6.5 in)
- (g) 0+0.5 mm (0+0.02 in)

- (c) Seal upper
- 8. Install the glass windshield.
 - (1) Using a sponge, apply primer to the adhesive surfaces of glass windshield side and the body side.

Caution:

Do not apply primer to adhesive remaining on the body side.

Note:

- Primer once attached to the painted surface of the body and internal trim is hard to wipe off. Mask the circumference of such area.
- Let primer dry for about ten minutes before installing the glass windshield.
- Do not touch the surface coated with primer.

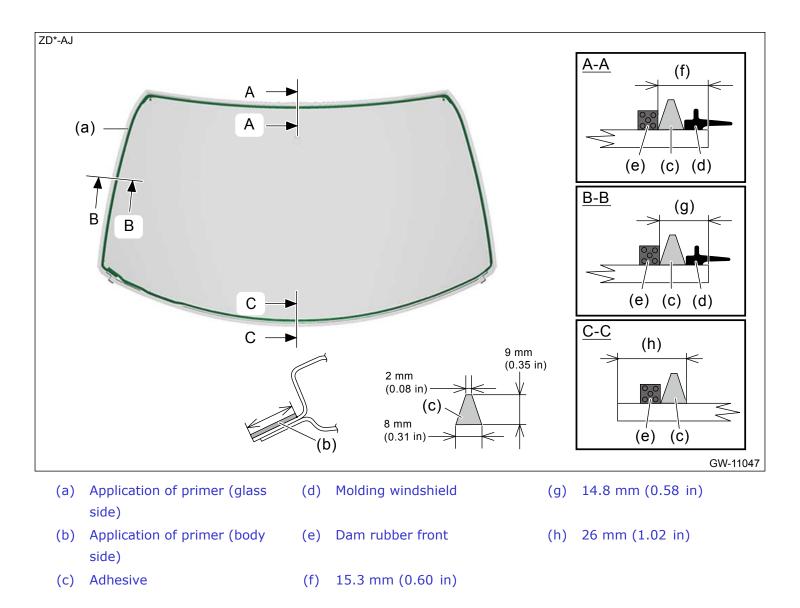
Preparation items:

Glass primer: Dow Automotive ESSEX U-401, U-402 or equivalent Painted surface primer: Dow Automotive ESSEX U-413 or equivalent

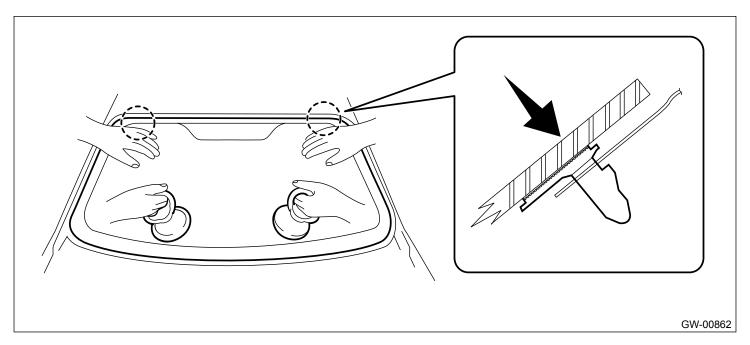
(2) Apply adhesive to the glass windshield end back surface along to the dam rubber.

Preparation items:

Adhesive: Dow Automotive ESSEX U-400HV or equivalent



(3) Fit the locating pin windshield to the vehicle body using suction rubber cups, and install the glass windshield.



- (4) Lightly press the entire perimeter of the glass windshield for tight fit.
- (5) Make flush the adhesive surface jutted out using spatula.
- **9.** After completion of all work, allow the vehicle to stand for about 24 hours.

Note:

- When opening/closing the door after the windshield glass was bonded, always lower the door glass assembly first, and then open/close it carefully.
- Move the vehicle slowly.
- For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.
- 10. Install the cowl panel assembly. Ref. to EXTERIOR/INTERIOR TRIM>Cowl Panel>INSTALLATION.
- **11.** Install the arm assembly windshield wiper. Ref. to WIPER AND WASHER SYSTEMS>Front Wiper Arm>INSTALLATION.
- **12.** Install the stereo camera and cover assembly stereo camera. (Models with EyeSight) <u>Ref. to EyeSight>Stereo Camera>INSTALLATION.</u>
- **13.** Install the mirror assembly inner rearview. Ref. to GLASS/WINDOWS/MIRRORS>Rearview Mirror>INSTALLATION.
- **14.** Install the trim panel assembly A pillar. Ref. to EXTERIOR/INTERIOR TRIM>Upper Inner Trim>INSTALLATION > A PILLAR TRIM.
- **15.** Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **16.** After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

Note:

When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

- **17.** Perform the inspection, and adjustment and check of the stereo camera. (Models with EyeSight)
 - Inspection: Ref. to EyeSight (DIAGNOSTICS)>General Description>INSPECTION.
 - Adjustment and check: <a>Ref. to EyeSight>Camera Adjustment, Inspection.

GLASS/WINDOWS/MIRRORS > Rear Window Glass

REMOVAL



Caution:

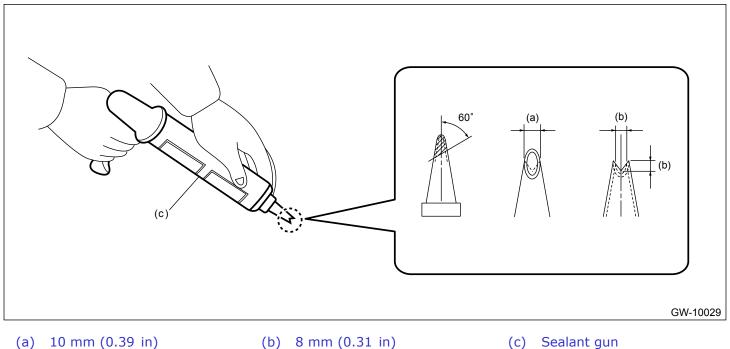
Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Tilt the front seat backrest assembly forward, and move the front seat all the way forward.
- **3.** Remove the cushion assembly rear seat and the backrest assembly rear seat. Ref. to SEATS>Rear Seat>REMOVAL.
- **4.** Remove the cover side sill front Rr and the cover side sill front Ft. Ref. to EXTERIOR/INTERIOR TRIM>Lower Inner Trim>REMOVAL.
- **5.** Remove the weather strip body side flange front. Ref. to EXTERIOR BODY PANELS>Weather Strip>REPLACEMENT.
- **6.** Remove the trunk trim panel side. Ref. to EXTERIOR/INTERIOR TRIM>Trunk Room Trim>REMOVAL.
- **8.** Remove the trim panel assembly rear shelf. Ref. to EXTERIOR/INTERIOR TRIM>Rear Shelf Trim>REMOVAL.
- **9.** Disconnect the rear defogger connector.
- **10.** Remove the glass rear window in the same procedure as for the glass windshield. <u>Ref. to GLASS/WINDOWS/MIRRORS>Windshield Glass>REMOVAL.</u>

GLASS/WINDOWS/MIRRORS > Rear Window Glass

INSTALLATION

1. Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



(b) 8 mm (0.31 in)

(c) Sealant gun

2. Smoothen and clean the adhesive surfaces of the glass rear window and the body using the same procedures as for the glass front window. Ref. to GLASS/WINDOWS/MIRRORS>Windshield Glass>INSTALLATION.

Caution:

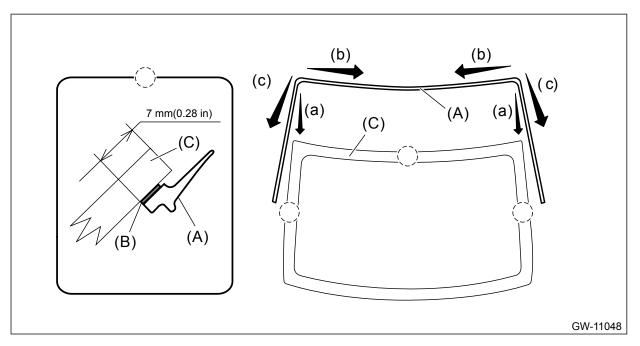
Use a new locating pin rear window.

3. Install a new molding rear window to the glass rear window.

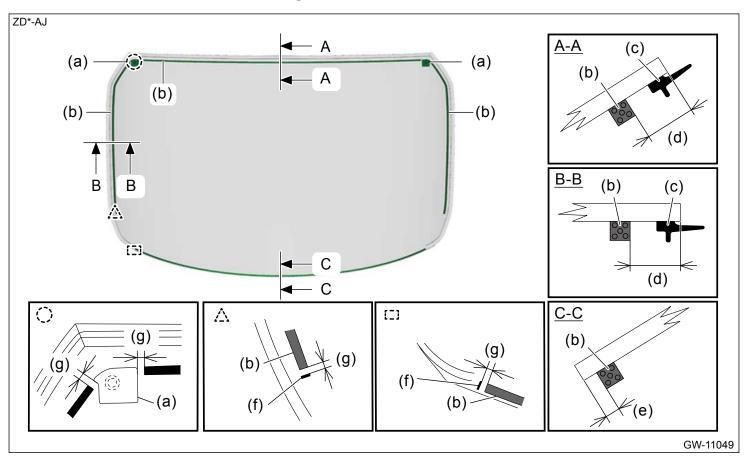
Caution:

Be careful to attach the rear window molding so that the molding has no loose or undulating part.

- (1) Align the molding rear window (A) with both ends of the upper edge (a) of the glass rear window (C).
- (2) Install the molding rear window from both corners of the upper edge toward the center (b).
- (3) Install the molding rear window from both corners of the upper edge toward the lower side (c).
- (4) Firmly apply the double sided tape (B) of the molding rear window evenly to the surface of the glass rear window.



4. Install a new dam rubber rear to the glass rear window.



- (a) Locating pin rear window
- (d) 15 mm (0.59 in)
- (f) Dam rubber set mark

- (b) Dam rubber rear window
- (e) 3 mm (0.12 in)
- (g) 3 mm (0.12 in) or less

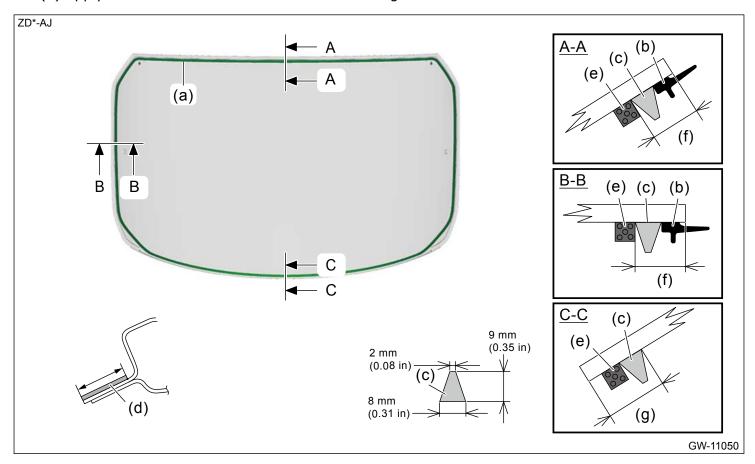
- (c) Molding rear window
- **5.** Install the glass rear window in the same procedure as for the glass windshield. Ref. to GLASS/WINDOWS/MIRRORS>Windshield Glass>INSTALLATION.

(1) Apply the primer to the adhesive surface of glass rear window side and body side using sponge.

Caution:

Do not apply primer to adhesive remaining on the body side.

(2) Apply adhesive to the end back surface of the glass rear window.



- (a) Application of primer (glass side)
- (b) Molding rear window

(c) Adhesive

- (d) Application of primer (body side)
- (e) Dam rubber rear window
- (f) 15 mm (0.59 in)
- (g) 16 mm (0.63 in)
- (3) Insert the locating pins rear window into the rear panel holes, and install the glass rear window.
- (4) Lightly press the entire perimeter of the glass rear window for tight fit.
- (5) Make flush the adhesive surface jutted out using spatula.
- 6. After completion of all work, allow the vehicle to stand for about 24 hours.

Note:

- When opening/closing the door after the rear window glass was bonded, always lower the door glass assembly first, and then open/close it carefully.
- Move the vehicle slowly.
- For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.
- **7.** Connect the rear defogger connector.
- 8. Install the trim panel assembly rear shelf. Ref. to EXTERIOR/INTERIOR TRIM>Rear Shelf Trim>INSTALLATION.

- **9.** Install the trim panel assembly C pillar rear and the trim panel assembly quarter. Ref. to
 Rear Quarter Trim>INSTALLATION.">EXTERIOR/INTERIOR TRIM>Rear Quarter Trim>INSTALLATION.
- **10.** Install the trunk trim panel side. Ref. to EXTERIOR/INTERIOR TRIM>Trunk Room Trim>INSTALLATION.
- **11.**Install the weather strip body side flange front. Ref. to EXTERIOR BODY PANELS>Weather Strip>REPLACEMENT.
- **12.** Install the cover side sill front Ft and the cover side sill front Rr. Ref. to EXTERIOR/INTERIOR TRIM>Lower Inner Trim>INSTALLATION.
- **13.** Install the backrest assembly rear seat and the cushion assembly rear seat. Ref. to SEATS>Rear Seat>INSTALLATION.
- **14.** Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **15.** After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

Note:

When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.

GLASS/WINDOWS/MIRRORS > Rear Window Defogger System

WIRING DIAGRAM

For the wiring diagram, refer to "Rear Defogger System" in the wiring diagram. Ref. to WIRING SYSTEM>Rear Defogger System>WIRING DIAGRAM.

GLASS/WINDOWS/MIRRORS > Rear Window Defogger System

INSPECTION

1. SYSTEM INSPECTION

Symptoms	Inspection order
	1. Check the fuse
	2. Check the rear defogger relay
Dear window defeager does not energic	3. Check the rear window defogger switch
Rear window defogger does not operate	4. Check the heat wire
	5. Check the wiring harness
	6. Check body integrated unit

Note:

Settings of the rear window defogger system continuous operation can be changed using the Subaru Select Monitor, when the customize setting [Auto A/C Setting] of the body integrated unit is set to [Support].

System name	Initial setting	Customize setting
Rr Defogger op. mode	Normal	Continuous*

^{*:} When the battery voltage remains at 10 V or less for 30 seconds, the continuous operation is suspended and turned to the normal operation.

2. CHECK WITH SUBARU SELECT MONITOR

Caution:

Before performing inspection, check whether the rear defogger operation mode setting is either in initial setting or customize setting.

1. CHECK BODY INTEGRATED UNIT SETTING.



- 1. Turn the ignition switch to ON.
- 2. Using Subaru Select Monitor, display [Auto A/C Setting] in [Data monitor] of [Body Control]. Ref. to COMMON (DIAGNOSTICS)>Data Monitor.

Is the setting in the [Support]?



Go to 2.



From the Customize item list, select [Auto A/C Setting] and match the auto A/C ECM setting to the actual vehicle equipment. Ref. to BODY CONTROL(DIAGNOSTICS)>Customize.

2. CHECK OPERATION OF REAR WINDOW DEFOGGER.



- **1.** Using Subaru Select Monitor, display [Rr Defogger op. mode] in [Customize] of [Body Control]. Ref. to BODY CONTROL(DIAGNOSTICS)>Customize.
- 2. Check the operation with rear window defogger switch ON.
 - When [Rr Defogger op. mode] is [Continuous], it is normal if the 15-minute operation and 2-minute stop repeats.
 - When [Rr Defogger op. mode] is [Normal], it is normal if the operation lasts for 15 minutes and then turns OFF.

Does it operate properly?



Function is normal.



Replace the body integrated unit. Ref. to BODY CONTROL/COMMUNICATION SYSTEM>Body Integrated Unit.

3. HEAT WIRE INSPECTION

Caution:

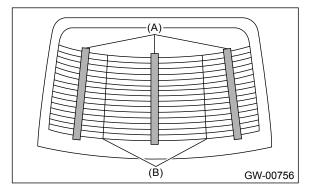
When wiping off the stain on glass with cloth, use a dry and soft cloth and move it in the direction of the heat wire extension to avoid damage to the heat wire.

- 1. Prepare the following checking items.
 - Liquid crystal thermograph sheet (approximate size: 300×300 mm (11.8×11.8 in) and thermal temperature: 35 40 °C (95 104 °F))

- Aluminum foil
- 2. Turn the ignition switch to ON.
- **3.** Turn the defogger switch to ON.
- 4. Push the liquid crystal thermograph sheet from the outside of the glass.

Note:

Use the liquid crystal thermograph sheet every range it is separated with the separate line.



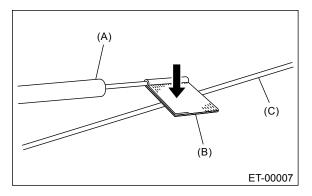
- (A) Liquid crystal thermograph sheet
- (B) Separate line
- **5.** Determine the faulty heat wire by checking the color of the liquid crystal thermograph sheet.

Note:

- Check from the inside of the rear window glass if the response of liquid crystal thermograph sheet is not good.
- The time for the color change may differ depends on the surface temperature of the glass.

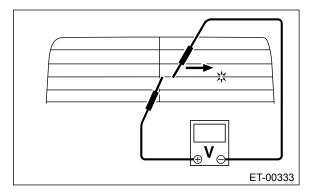
Liquid crystal thermograph sheet	Criteria
Change occurred (red \rightarrow blue)	Normal
No change (black)	Open

6. Wrap a piece of aluminum foil around the tip of tester probe and press it against the heat wire with your finger.



- (A) Tester probe
- (B) Aluminum foil
- (C) Heat wire

- 7. Fasten the tester probe on the positive (+) side and negative (-) side to end of positive side of the section that has been found to include an open in the step 5.
- 8. Move the tester probe on the negative (-) side slowly along the heat wire. If voltage changes from zero while moving the tester probe, heat wire is open at the voltage change point.



9. Repair the heat wire that determines the place of the open circuit. Ref. to GLASS/WINDOWS/MIRRORS>Rear Window Defogger System>REPAIR.

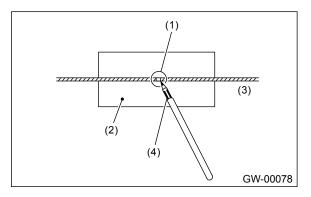
GLASS/WINDOWS/MIRRORS > Rear Window Defogger System

REPAIR

- 1. Clean the broken portion with alcohol or appropriate cleaning solvent.
- 2. Mask both side of wire with masking tape.
- **3.** Apply the repairing material to the broken portion.

Preparation items:

Repairing material: DUPONT No. 4817 or equivalent



- (1) Broken portion
- (2) Masking tape
- (3) Broken wire
- (4) Conductive silver composition
- **4.** After repair, check the wire.

GLASS/WINDOWS/MIRRORS > Rear Quarter Glass

REMOVAL



Caution:

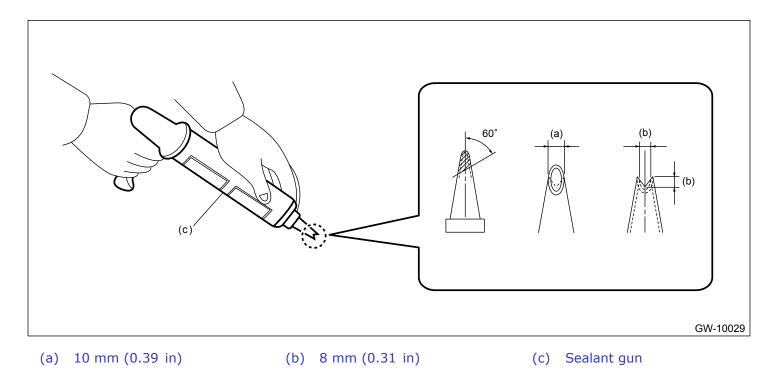
Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

- 1. Disconnect the ground terminal from the battery sensor, and wait for at least 60 seconds before starting work. Ref. to REPAIR CONTENTS>NOTE > BATTERY.
- 2. Tilt the front seat backrest assembly forward, and move the front seat all the way forward.
- **3.** Remove the cushion assembly rear seat and the backrest assembly rear seat. Ref. to SEATS>Rear Seat>REMOVAL.
- **4.** Remove the cover side sill front Rr and the cover side sill front Ft. Ref. to EXTERIOR/INTERIOR TRIM>Lower Inner Trim>REMOVAL.
- **5.** Remove the weather strip body side flange front. Ref. to EXTERIOR BODY PANELS>Weather Strip>REPLACEMENT.
- **6.** Remove the trunk trim panel side. Ref. to EXTERIOR/INTERIOR TRIM>Trunk Room Trim>REMOVAL.
- 7. Remove the trim panel assembly quarter, trim panel assembly C pillar rear, and the trim panel assembly C pillar front. Ref. to EXTERIOR/INTERIOR TRIM>Rear Quarter Trim>REMOVAL.
- **8.** Remove the glass rear quarter in the same procedure as for the glass windshield. <u>Ref. to GLASS/WINDOWS/MIRRORS>Windshield Glass>REMOVAL.</u>

GLASS/WINDOWS/MIRRORS > Rear Quarter Glass

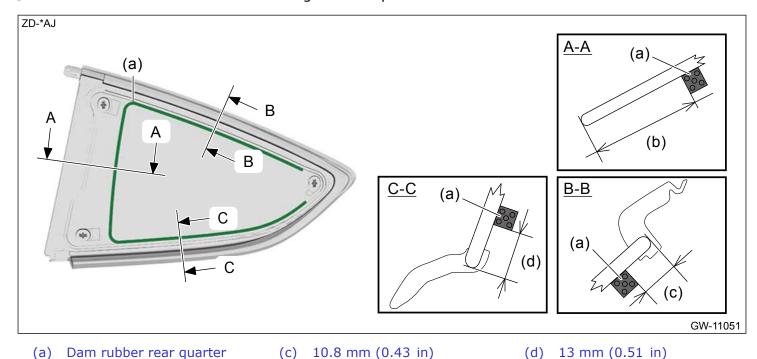
INSTALLATION

1. Fabricate the cartridge nozzle tip as shown and set the sealant gun with the adhesive.



- 2. Smoothen and clean the adhesive surfaces of the glass rear quarter side and the body side, with the same procedures as for the glass windshield. Ref. to GLASS/WINDOWS/MIRRORS>Windshield Glass>INSTALLATION.
- **3.** Install a new dam rubber rear to the glass rear quarter.

(b) 73.3 mm (2.89 in)

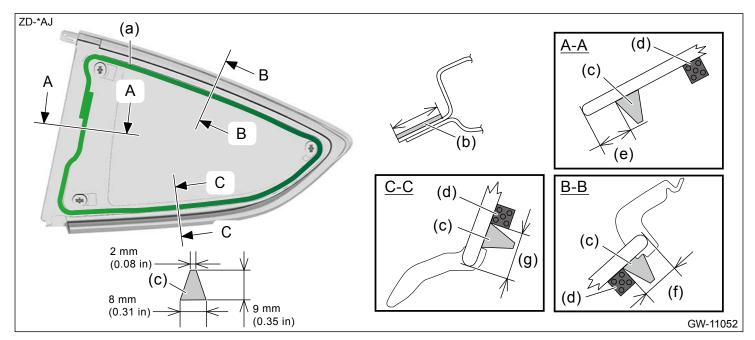


- **4.** Install the glass rear quarter in the same procedure as for the glass windshield. <u>Ref. to GLASS/WINDOWS/MIRRORS>Windshield Glass>INSTALLATION.</u>
 - (1) Apply the primer to the adhesive surface of glass rear quarter side and body side using sponge.

Caution:

Do not apply primer to adhesive remaining on the body side.

(2) Apply adhesive to the end back surface of the glass rear quarter.



- (a) Application of primer (glass side)
- (d) Dam rubber rear quarter
- (f) 10.8 mm (0.43 in)

- (b) Application of primer (body side)
- (e) 29.6 mm (1.17 in)
- (g) 13 mm (0.51 in)

- (c) Adhesive
- (3) Insert the locating pins rear quarter into the side panel holes, and install the glass rear quarter.
- (4) Lightly press the entire perimeter of the glass rear quarter for tight fit.
- (5) Make flush the adhesive surface jutted out using spatula.
- 5. After completion of all work, allow the vehicle to stand for about 24 hours.

Note:

- When opening/closing the door after the rear quarter glass was bonded, always lower the door glass assembly first, and then open/close it carefully.
- Move the vehicle slowly.
- For minimum drying time and vehicle standing time before driving after bonding, follow instructions or instruction manual from the adhesive manufacturer.
- **6.** Install the trim panel assembly C pillar front, trim panel assembly C pillar rear, and trim panel assembly quarter. Ref. to EXTERIOR/INTERIOR TRIM>Rear Quarter Trim>INSTALLATION.
- 7. Install the trunk trim panel side. Ref. to EXTERIOR/INTERIOR TRIM>Trunk Room Trim>INSTALLATION.
- **8.** Install the weather strip body side flange front. Ref. to EXTERIOR BODY PANELS>Weather Strip>REPLACEMENT.
- **9.** Install the cover side sill front Ft and the cover side sill front Rr. Ref. to EXTERIOR/INTERIOR TRIM>Lower Inner Trim>INSTALLATION.
- 10. Install the backrest assembly rear seat and the cushion assembly rear seat. Ref. to SEATS>Rear

<u>Seat>INSTALLATION.</u>

- **11.** Connect the ground terminal to battery sensor. Ref. to REPAIR CONTENTS > NOTE > BATTERY.
- **12.** After curing of adhesive, pour the water on external surface of vehicle to check that there are no water leaks.

Note:

When a vehicle is returned to the user, tell him or her that the vehicle should not be subjected to heavy impact for at least three days.